Contingency Contractor Optimization Phase 3 Sustainment - Database Design Document
Contingency Contractor Optimization Tool – Prototype

Christopher R. Frazier, Justin D. Durfee, Alisa Bandlow, Jared L. Gearhart, Katherine A. Jones

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Sandia National Laboratories

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Contingency Contractor Optimization Tool – Prototype

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Contents

1. GENERAL INFORMATION

1.1. Purpose

The Contingency Contractor Optimization Tool – Prototype (CCOT-P) database is used to store input and output data for the linear program model described in [1]. The database allows queries to retrieve this data and updating and inserting new input data.

1.2. Scope

The Database Specifications in this document describe the entire database used for the CCOT-P tool. This document is intended to inform future data owners about the structure of the database.

1.3. System Overview

The Contingency Contractor Optimization Tool – Prototype is a web-based force planning tool. See the requirements in [2] and [3] for the system description, overview, and requirements.

1.4. Points of Contact

Developers:
- Justin Durfee – jdurfee@sandia.gov – (505) 844-9583
- Christopher Frazer – crfrazi@sandia.gov – (505) 844-5474

Project Lead:
- Alisa Bandlow – abandlo@sandia.gov – (505) 284-8429

1.5. Data Owners

Integration Team Lead:
- Chris Manor – christopher.e.manor.ctr@mail.mil – (5710 372-6123

1.6. Naming Conventions

Tables are named using the following convention: [Table Type]_[Table Name]. There are five table types which are used by the three different roles. These roles are defined in [4].

The five table types are:
- AD – Administrator table
  - Contains both defaults for lower users to use and values that only administrators can change.
- DS – Dataset Table
  - Contains both defaults for lower users to use and values that only administrators and planning managers can change.
- MR – Model Run Table
  - Contains values that are used by the model.
- LT – Lookup Table
  - Contains static values that should not change.
- MO – Model Output Table
  - Contains the output from the model.

Table names have the first letter of each word capitalized and no character between words (i.e. MR_AvailablePersonnel)

Column names are named in the same manner as the second half of the table name (i.e. ModelRunID)

Views are named using the following convention: [View Type]_[View Name](optional)_[Sub View Name]

MySQL (the database originally used for development) views do not allow nested queries, which results in some views being constructed of several sub views.

There are six view types:
- LTV – Lookup Table View
  - Provides an easier way to view lookup tables
- MOUV – Model Output User View
  - Formats the output to a form used to display to the user
- MOV – Model Output View
  - Formats the output, but not used for displaying to the user
- MRIV – Model Run Input View
  - Formats the input data for feeding into the linear program model
- MRUV – Model Run User View
  - Formats the input data for displaying to the user
- MRV – Model Run View
  - Formats the input data, but not for displaying to the user

1.7. Database Identification

See Appendix A: Data Dictionary for the complete list of tables and views.

1.8. Systems Using the Database

The CCOT-P Web Application is the only system that accesses the database.

1.9. Relationship to Other Databases

The CCOT-P database does not interface with any other databases.

1.10. Data Dictionary

See Appendix A: Data Dictionary.

2. DATABASE ADMINISTRATIVE INFORMATION

2.1. Responsibility

The CCOT-P database is currently hosted by OUSD(AT&L) eBusiness Center.

2.2. System Information

2.2.1. Database Management System (DBMS) Configuration

The CCOT-P database was developed in MS SQL Server 2012.

2.2.2. Hardware Configuration

The CCOT-P database is currently hosted by OUSD(AT&L) eBusiness Center. The server is running Windows Server 2008 R2, but will be upgraded to SQL 2014 during the summer of 2016. It has two Intel Xeon E5530 2.5 GHz processors and 64 GB of RAM. eBusiness Center can be contacted regarding additional hardware configuration information.

2.2.3. Database Software Utilities

SQL Server Management Studio is the only utility used to support development and maintenance of the database.

2.2.4. Support Software Available for Maintaining Database

SQL Server Management Studio is available for maintenance of the database.

2.2.5. Security

The CCOT-P Web Application will be granted use of the database through a SQL Server account. This account needs both the data reader and data writer roles for manipulating the database. Additional users can be added to the database as needed for administrative access as determined by the customer.

2.3. Recovery

Since the database is deployed to the customer's system, the customer will determine database backup needs. It is highly recommended that regular backups are captured, as losing the data in the database will render the application non-functional. These backups can typically be used to restore the database to a previous point in time through the use of SQL Server Management Studio.

2.4. Database Interfaces

Currently two applications touch the database: the CCOT-P Web Application and a polling tool. The CCOT-P Web Application uses the database for displaying data to the user and allowing the user to modify the input data. The Web Application also facilitates passing the required data to the solver. The polling tool has very limited interaction with the database as its primary purpose is to poll the database to ensure it is accessible.

2.4.1. Description of Operational Implications

The database being accessible is required for the CCOT-P Web Application to be used. If the database is not accessible, the application cannot determine which users should be granted access to the tool and all, therefore, all users will be denied access.

2.4.2. Description of Data Transfer Requirements

There are no special requirements for data transfer between the application and the database. The application will use the native connection through a driver provided by the database vendor.

2.4.3. Description of Formats of Data

There are no special requirements for format of the data transfer between the application and the database. The application will use the native connection through a driver provided by the database vendor.

REFERENCES

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[2] J. D. Durfee, C. R. Frazier, A. Bandlow, J. L. Gearhart, K. A. Jones, "Contingency Contractor Optimization Tool Phase 3 Sustainment, Platform Requirements – Contingency Contractor Optimization Tool - Prototype," Sandia National Laboratories, May 2016.

[3] A. Bandlow, J. D. Durfee, C. R. Frazier, K. A. Jones, J. L. Gearhart, "Contingency Contractor Optimization Tool Phase 3 Sustainment, Requirements Document – Contingency Contractor Optimization Tool - Prototype," Sandia National Laboratories, May 2016.

[4] A. Bandlow, K. L. Adair, J. D. Durfee,C. R. Frazier, J. L. Gearhart, L. K. Nozick, "Contingency Contractor Optimization Phase 3 Sustainment, User Manual - Contingency Contractor Optimization Tool, Engineering Prototype - Release 2.3," Sandia National Laboratories, July 2015.

APPENDIX A: DATA DICTIONARY

Tables

- AD_AnnualCosts
  - This table stores the annual cost of using a given personnel group in a specific scenario.
  - Columns
    - ScenarioID – A unique ID referencing the scenario associated with the cost
    - PersonnelGroupID – A unique ID referencing the personnel group associated with the cost
    - Cost – The annual cost of the personnel group for the scenario
- AD_AnnualCostsDefaults
  - This table stores the default costs that a baseline will take on when a new baseline is created.
  - Columns
    - PersonnelGroupID – A unique ID referencing the personnel group associated with the cost
    - Cost – The annual cost for the personnel group
- AD_HostilityGroups
  - This table stores the administrator mapping setting which personnel groups are allowed to be used based on a given hostility level. When a new baseline is created, it assumes the current values in this table.
  - Columns
    - HostilityID – A unique ID referencing a hostility level
    - PersonnelGroupID – A unique ID referencing which personnel groups are allowed
    - Allowed – A Boolean field for whether the personnel group is allowed to be used for the level of hostility
- AD_ManpowerRequirements
  - This table stores the manpower requirements of each zone (location) for a given skill and phase.
  - Columns
    - ZoneID – A unique ID referencing the zone (location) associated with the manpower requirements
    - SkillID – A unique ID referencing the skill associated with the manpower requirements
    - PhaseID – A unique ID referencing the phase associated with the manpower requirements
    - NumRequired – The manpower requirement
- AD_ManpowerRules
  - This table stores the administrator values setting which personnel groups are allowed to perform specific skills. This is based on DODI 1100.22 and should rarely, if ever, be changed.
  - Columns
    - PersonnelGroupID – A unique ID referencing which personnel group is allowed to perform a certain skill

- SkillID – A unique ID referencing which skill the personnel group is allowed to perform
- Allowed – A Boolean field for whether or not the personnel group can perform the skill
- AD_ManpowerSubstitution
  - This table stores the default substitution (efficiency) values for scenario/personnel group combination.
  - Columns
    - ScenarioID – A unique ID referencing the scenario associated with the substitution
    - PersonnelGroupID – A unique ID referencing the personnel group associated with the substitution
    - Substitution – A float value less than or equal to 1.0 representing the efficiency of a personnel group for a given scenario
- AD_ManpowerSubstitutionDefaults
  - This table stores the default substitution (efficiency) values for a personnel group that a new baseline will use as defaults for newly created scenarios.
  - Columns
    - PersonnelGroupID - A unique ID referencing the personnel group associated with the substitution
    - Substitution – A float value less than or equal to 1.0 representing the efficiency of a personnel group
- AD_ModelRunOptions
  - This table stores the default values for several model specific options.
  - Columns
    - OptionID – A unique ID referencing the option associated with the default value
    - Value – The default value for the option
    - StepID – The step of the model which uses this value if using a multi-step optimization
- AD_OperationTypesPhases
  - This table stores the default hostility and risk of a phase given an operation type.
  - Columns
    - OperationTypeID – A unique ID representing the operation type associated with the defaults
    - PhaseID – A unique ID representing the phase associated with the defaults
    - HostilityID – A unique ID representing the hostility for the phase
    - RiskID – A unique ID representing the risk for the phase
- AD_OperationTypes
  - This table stores the details of each operation type.
  - Columns
    - OperationTypeID – A unique ID for the operation type
    - Name – The string name of the operation type
    - StatusID – An ID representing the status of the operation type (1=public 2=draft)
    - Display – A Boolean representing whether to display this operation type

- IsDeleted – A Boolean flag for whether this operation type has been deleted
- AD_PersonnelGroups
  - This table stores the personnel groups a baseline will use when created along with the details of the personnel group.
  - Columns
    - PersonnelGroupID – A unique ID for the personnel group
    - Description – A string description of the personnel group
    - Abbr – A string abbreviation for the personnel group
    - Military – A Boolean flag for whether the personnel group is considered military
    - Contractor – A Boolean flag for whether the personnel group is a contractor
    - Editable – A Boolean flag for whether values associated with the personnel group can be edited by a non-administrator
    - Display – A Boolean flag for whether to display this personnel group
- AD_PlanningFactors
  - This table stores the planning factors (plus up percentage) for each zone (location) and skill combination.
  - Columns
    - ZoneID – A unique ID representing the zone (location) associated with the planning factor
    - SkillID – A unique ID representing the skill associated with the planning factor
    - PlanningFactor – A plus up percentage to apply to the manpower requirements
- AD_Policies
  - This tables stores the policies a new baseline will have available to use when created.
  - Columns
    - PolicyID – A unique ID for the policy
    - Name – A string name for the policy
    - Description – A brief string description of the policy
    - Display – A Boolean flag for whether to display this policy to non-administrators
- AD_PolicyGroups
  - This table stores which personnel groups can be used when a given policy is applied
  - Columns
    - PolicyID – A unique ID representing the policy
    - PersonnelGroupID – A unique ID representing the personnel group
    - Allowed – A Boolean flag for whether a personnel group can be used when the policy is in effect
- AD_ScenarioPhases
  - This table stores the default phase durations for a scenario.
  - Columns

- ▪ ScenarioID – A unique ID representing the scenario
  - ▪ PhaseID – A unique ID representing the phase
  - ▪ Duration – An integer duration (in time periods)
- AD_ScenarioPriorities
  - ○ This table stores the priority levels each scenario can be assigned.
  - ○ Columns
    - ▪ PriorityID – A unique ID for the priority
    - ▪ Name – A string name
    - ▪ Value – A float value used by the model for scenarios assigned this priority
    - ▪ Ordinal – An integer value indicating the ordering of the scenario priorities
- AD_Scenarios
  - ○ This table stores the master list of scenarios.
  - ○ Columns
    - ▪ ScenarioID – A unique ID for the scenario
    - ▪ Description – A string description of the scenario
    - ▪ Notes – Any notes related to the scenario
    - ▪ StartDate – The default start date of this scenario
    - ▪ OperationTypeID – A unique ID representing which operation type this scenario falls under
    - ▪ PriorityID – A unique ID representing the priority of this scenario
    - ▪ StatusID – A unique ID representing the status of this scenario
    - ▪ CreateDate – The date this scenario was created
    - ▪ PublishedDate – The date this scenario was made available to analysts
    - ▪ Display – A Boolean for whether or not non-admins can see this scenario
- AD_Skills
  - ○ This table stores the list of skills a baseline will have available when created.
  - ○ Columns
    - ▪ SkillID – A unique ID representing the skill
    - ▪ Description – A string description of the skill
    - ▪ Display – A Boolean for whether non-administrators can see this skill
- AD_ZonePhases
  - ○ This table stores default risk and hostility settings for every phase and zone (location) combination.
  - ○ Columns
    - ▪ ZoneID – A unique ID representing the zone (location)
    - ▪ PhaseID – A unique ID representing the phase
    - ▪ HostilityID – A unique ID representing the hostility level
    - ▪ RiskID – A unique ID representing the risk level
- AD_ZonePolicies
  - ○ This table stores the default policy for each zone (location).
  - ○ Columns
    - ▪ ZoneID – A unique ID representing the zone (location)
    - ▪ PolicyID – A unique ID representing the policy
- AD_Zones

- o This table stores the list of zones (locations) and the scenario associated with them.
  - o Columns
    - ▪ ZoneID – A unique ID representing the zone (location)
    - ▪ ScenarioID – A unique ID representing the scenario
    - ▪ Name – The string name of the scenario
- DS_AnnualCosts
  - o This table stores the annual costs associated with each personnel group for a given scenario and baseline.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ ScenarioID – A unique ID representing the scenario
    - ▪ PersonnelGroupID – A unique ID representing the personnel group
    - ▪ Cost – The annual cost of the personnel group
- DS_AnnualCostsDefaults
  - o This table stores the annual costs a new scenario will use as defaults.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ PersonnelGroupID – A unique ID representing the personnel group
    - ▪ Cost – The default annual cost of the personnel group
- DS_AvailablePersonnel
  - o This table stores the default number of personnel available for a given personnel group and skill combination.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ PersonnelGroupID – A unique ID representing the personnel group
    - ▪ SkillID – A unique ID representing the skill
    - ▪ NumAvailable – The number of personnel available to do a certain skill
- DS_Budget
  - o This table stores the baseline default budget for new analyses created under this baseline.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ YearID – The ID of the year associated with the budget
    - ▪ Budget – The budget for the given year
- DS_ContractorCosts
  - o This table stores the baseline default costs for contractors.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ SkillID – A unique ID representing the skill
    - ▪ LeadTime – An integer representing the lead time for the contractor
    - ▪ HiringCost – An integer representing the hiring cost for the contractor
    - ▪ HoldingCost – An integer representing the holding cost for the contractor
    - ▪ FiringCost – An integer representing the firing cost for the contractor
- DS_HostilityGroups
  - o This table stores the baseline defaults for which personnel groups are allowed.

- o Columns
  - ▪ DataSetID – A unique ID representing the data set (baseline)
  - ▪ HostilityID – A unique ID representing the hostility level
  - ▪ PersonnelGroupID – A unique ID representing the personnel group
  - ▪ Allowed – A Boolean as to whether the personnel group is allowed to be used
- DS_ManpowerRequirements
  - o This table stores the manpower requirements for a scenario in a baseline.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ ZoneID – A unique ID representing the zone (location)
    - ▪ SkillID – A unique ID representing the skill
    - ▪ PhaseID – A unique ID representing the phase
    - ▪ NumRequired – The number of personnel required for the zone (location), skill, phase combination
- DS_ManpowerRules
  - o This table stores which personnel groups are allowed to perform what skills for a given baseline.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ PersonnelGroupID – A unique ID representing the personnel group
    - ▪ SkillID – A unique ID representing the skill
    - ▪ Allowed – A Boolean as to whether a personnel group is allowed to perform a skill
- DS_ManpowerSubsitution
  - o This table stores the substitution (efficiency) values for a personnel group for a given scenario.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ ScenarioID – A unique ID representing the scenario
    - ▪ PersonnelGroupID – A unique ID representing the personnel group
    - ▪ Substitution - A float value less than or equal to 1.0 representing the efficiency of a personnel group
- DS_ManpowerSubstitutionDefaults
  - o This table stores the default substitution values for newly created scenarios under a baseline.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ PersonnelGroupID – A unique ID representing the personnel group
    - ▪ Substitution – A float value less than or equal to 1.0 representing the efficiency of a personnel group
- DS_ModelRunOptions
  - o This table stores the baseline's default values for several model specific options.
  - o Columns
    - ▪ DataSetID – A unique ID referencing the data set (baseline)

- OptionID – A unique ID referencing the option associated with the default value
- Value – The default value for the option
- StepID – The step of the model which uses this value if using a multi-step optimization
- DS_OperationTypesPhases
  - This table stores the baseline's default hostility and risk for a phase given an operation type.
  - Columns
    - DataSetID – A unique ID representing the data set (baseline)
    - OperationTypeID – A unique ID representing the operation type associated with the defaults
    - PhaseID – A unique ID representing the phase associated with the defaults
    - HostilityID – A unique ID representing the hostility for the phase
    - RiskID – A unique ID representing the risk for the phase
- DS_OperationTypes
  - This table stores the baseline's details for each operation type.
  - Columns
    - DataSetID – A unique ID representing the data set (baseline)
    - OperationTypeID – A unique ID for the operation type
    - Name – The string name of the operation type
    - Display – A Boolean representing whether to display this operation type
- DS_PersonnelGroups
  - This table stores the baseline's personnel groups.
  - Columns
    - DataSetID – A unique ID representing the data set (baseline)
    - PersonnelGroupID – A unique ID for the personnel group
    - Description – A string description of the personnel group
    - Abbr – A string abbreviation for the personnel group
    - Military – A Boolean flag for whether the personnel group is considered military
    - Contractor – A Boolean flag for whether the personnel group is a contractor
    - Editable – A Boolean flag for whether values associated with the personnel group can be edited by non-administrators
    - Display – A Boolean flag for whether to display this personnel group
- DS_PlanningFactors
  - This table stores the baseline's planning factors (plus up percentage) for each zone (location) and skill combination.
  - Columns
    - DataSetID – A unique ID representing the data set (baseline)
    - ZoneID – A unique ID representing the zone (location) associated with the planning factor
    - SkillID – A unique ID representing the skill associated with the planning factor

- ▪ PlanningFactor – A plus up percentage to apply to the manpower requirements
- DS_Policies
  - o This table stores the baseline's available policies.
  - o Columns
    - ▪ DataSetID – A unique ID for the data set (baseline)
    - ▪ PolicyID – A unique ID for the policy
    - ▪ Name – A string name for the policy
    - ▪ Description – A brief string description of the policy
    - ▪ Display – A Boolean flag for whether to display this policy
- DS_PolicyGroups
  - o This table stores which personnel groups can be used when a given policy is applied for a given baseline.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ PolicyID – A unique ID representing the policy
    - ▪ PersonnelGroupID – A unique ID representing the personnel group
    - ▪ Allowed – A Boolean flag for whether a personnel group can be used when the policy is in effect
- DS_ScenarioPhases
  - o This table stores the default phase durations for a scenario in a baseline.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ ScenarioID – A unique ID representing the scenario
    - ▪ PhaseID – A unique ID representing the phase
    - ▪ Duration – An integer duration (in time periods)
- DS_ScenarioPriorities
  - o This table stores the baseline's priority levels that each scenario can be assigned.
  - o Columns
    - ▪ DataSetID – A unique ID for the data set (baseline)
    - ▪ PriorityID – A unique ID for the priority
    - ▪ Name – A string name
    - ▪ Value – A float value used by the model for scenarios assigned to this priority
    - ▪ Ordinal – An integer value indicating the ordering of the scenario priorities
- DS_Scenarios
  - o This table stores the list of scenarios that can be used in the baseline.
  - o Columns
    - ▪ DataSetID – A unique id for the data set (baseline)
    - ▪ ScenarioID – A unique ID for the scenario
    - ▪ Description – A string description of the scenario
    - ▪ Notes – Any notes related to the scenario
    - ▪ StartDate – The default start date of this scenario
    - ▪ OperationTypeID – A unique ID representing which operation type this scenario falls under

- PriorityID – A unique ID representing the priority of this scenario
- StatusID – A unique ID representing the status of this scenario
- CreateDate – The date this scenario was created
- PublishedDate – The date this scenario was made available to analysts
- Display – A Boolean for whether to display this scenario
- DS_Skills
  - This table stores the baseline's list of skills.
  - Columns
    - DataSetID – A unique ID representing the data set (baseline)
    - SkillID – A unique ID representing the skill
    - Description – A string description of the skill
    - Display – A Boolean for whether to display this skill
- DS_StartupCosts
  - This table stores the startup costs associated with a personnel group.
  - Columns
    - DataSetID – A unique ID representing the data set (baseline)
    - PersonnelGroupID – A unique ID representing the personnel group
    - Cost – The startup cost for the personnel group
- DS_ZonePhases
  - This table stores the baseline's default risk and hostility settings for every phase and zone (location) combination.
  - Columns
    - DataSetID – A unique ID representing the data set (baseline)
    - ZoneID – A unique ID representing the zone (location)
    - PhaseID – A unique ID representing the phase
    - HostilityID – A unique ID representing the hostility level
    - RiskID – A unique ID representing the risk level
- DS_ZonePolicies
  - This table stores the baseline's default policy for each zone (location).
  - Columns
    - DataSetID – A unique ID representing the data set (baseline)
    - ZoneID – A unique ID representing the zone (location)
    - PolicyID – A unique ID representing the policy
- DS_Zones
  - This table stores the baseline's list of zones (locations) and their associated scenario.
  - Columns
    - DataSetID – A unique ID representing the data set (baseline)
    - ZoneID – A unique ID representing the zone (location)
    - ScenarioID – A unique ID representing the scenario
    - Name – The string name of the scenario
- LT_DataSets
  - This table stores the list of data sets (baselines) and details about them.
  - Columns
    - DataSetID – The unique ID representing the data set (baseline)
    - Name – The string name of the data set (baseline)

- Notes – Notes associated with this data set (baseline)
- Creator – The username of the person who created the data set (baseline)
- CreatedTime – The date and time at which the data set (baseline) was created
- StatusID – A unique ID representing the status of the data set (baseline) (e.g. draft, public, deleted)
- Display – A Boolean determining whether this data set (baseline) is displayed to analysts
- LT_Distributions
  - This table stores the list of uncertainty distributions that can be used. Currently, only a uniform distribution is implemented.
  - Columns
    - DistributionID – A unique ID for the uncertainty distribution
    - Name – A string name for the uncertainty distribution
- LT_Hostilities
  - This table stores the list of hostility levels.
  - Columns
    - HostilityID – A unique ID for the hostility level
    - Name – The string name of the hostility level
    - Description – A description of the hostility level
- LT_LoginRoles
  - This table stores the list of logins used for authentication.
  - Columns
    - ID – The unique ID of the login
    - Login – The username of this login
    - Admin – A boolean representing whether this login is an administrator
    - Planner – A boolean representing whether this login is a planner
    - Analyst – A boolean representing whether this login is an analyst
    - Deleted – A boolean representing whether this login has been deleted
- LT_MilitaryOnly
  - This table is a lookup boolean indicating military-only options.
  - Columns
    - MilitaryOnly - A boolean indicating whether the option is only for military
- LT_ModelRunOptions
  - This table stores the list of options and default values that can be used to configure the model. Not all of these options are applicable to the CLP solver.
  - Columns
    - OptionID – A unique ID for the option
    - Type – A string indicating the type of solver used for the model run
    - Prefix – A prefix for the name of the option
    - Name – The name of the option
    - DefaultValue – The default value for the option
    - ShowInInterface – A boolean indicating whether the options should be exposed through the interface.
    - Description – A description for the option

- ShowInInterfaceQuickView – A boolean indicating whether the options should be exposed through the quick view of the interface.
- LT_ModelRuns
    - This table stores the list of model runs (analyses) and some details about them.
    - Columns
        - ModelRunID – A unique ID for the model run
        - ModelID – A unique ID for the type of model used
        - DataSetID – A unique ID for the data set (baseline) this model run falls under
        - ParentModelRunID – A unique ID for this model run's parent
        - ModelRunName – The name of this model run
        - ModelRunDescription – The description of this model run
        - RunConfigID – A unique ID for the run configuration used
        - Priority – The priority of this model run
        - StatusCode – A unique ID for the status of this model run (i.e. solved, initial, deleted, etc.)
        - Creator – The username of the person who created this model run
        - CreatedTime – The time this model run was created
        - ModelStartTime – The time the solve process started for this model run
        - ModelEndTime – The time the solve process ended for this model run
        - DeletedTime – The time this model run was flagged as deleted
        - ScheduledTime – The time the model was scheduled to be run
        - ServerName – A string representing the server name on which the model was run.
        - NumSteps – The total number of time steps for this model run.
        - CurrentStep – The current time step of the this model run.
        - ModelRunType – A unique ID for the type of model run (i.e. uncertainty)
- LT_ModelRunTypes
    - This table stores the different types of model runs.
    - Columns
        - TypeID – A unique ID for the model run type
        - Description – The description of the model run type
- LT_Models
    - This table holds the different model types available from the application.
    - Columns
        - ModelID – A unique ID for the model type
        - ModelName – The name of the model type
        - ModelDescription – A description of the model type
        - AppName – The name of the model presented in the application
        - ModelPriority – A float representing the ranking of the models when presented in the application
- LT_ModelSteps
    - This table holds the model steps used by the application.
    - Columns
        - ModelID – A unique ID for the model type
        - StepID – A unique ID for the step

- StepName – The name for the step
- LT_Phases
  - This table stores the list of operational phases.
  - Columns
    - PhaseID – A unique ID for the phase
    - Description – A description of the phase
- LT_Risks
  - This table stores the list of risk levels.
  - Columns
    - RiskID – A unique ID for the risk level
    - PercentRisk – The percent risk this level implies
    - Name – The name of this risk level
- LT_RunConfigs
  - This table holds the run configurations.
  - Columns
    - RunConfigID – A unique ID for the configurations
    - ModelID – The model unique ID
    - RunConfigName – The name for the configurations
    - RunConfigDescription – A description of the configurations
    - Preference – An integer indicating the ordering of the configurations in the application
- LT_RunStatus
  - This table stores the list of status codes for model run states.
  - Columns
    - StatusCode – A unique ID for the status
    - StatusName – The string name of the status
    - StatusDescription – The description of the status
- LT_Status
  - This table stores the list of statuses that a baseline or model run can take on.
  - Columns
    - StatusID – A unique ID for the status
    - Name – The string name of the status
- LT_TimePeriodIDs
  - This table stores the list of time periods.
  - Columns
    - TimePeriodID – A unique ID for the time period
    - FYWeek – A unique ID for the fiscal week
    - FYYear - The fiscal year for this time period
    - Date – The exact date this time period starts on
- LT_Users
  - This table holds user information.
  - Columns
    - UserID – A unique ID for the user
    - UserName – The string username for the user
    - FullName – The actual name of the user
    - Email – The email address of the user

- Password – The password for the user
- Active – A boolean indicating whether the user is active in the system
- Administrator – A boolean indicating whether the user is an administrator
- LT_UTCMapping
  - This table stores the mapping from service UTCs to skills.
  - Columns
    - ServiceUTC – The service UTC to map to a skill
    - SkillID – A unique ID of the skill that the UTC is mapped to
- MO_Assignments
  - This table stores the resulting assignments the model has decided on once solved.
  - Columns
    - ModelRunID – The unique ID representing the model run
    - PackageID – The unique ID representing the package (a concept internal to the model)
    - RealizationID – The unique ID representing the realization (a concept internal to the model)
    - ElementID – The unique ID representing the element (a concept internal to the model)
    - ScenarioID – The unique ID representing the scenario
    - PersonnelGroupID – The unique ID representing the personnel group
    - SkillID – The unique ID representing the skill
    - TimePeriodID – The unique ID representing the time period
    - Assigned – The number of personnel of the given personnel group assigned to perform a skill for a given scenario and time period
    - Overage – The number of personnel needed of the given personnel group that were not available to use
- MR_AnnualCosts
  - This table stores the annual costs of personnel groups that are to be used for this model run.
  - Columns
    - ModelRunID – The unique ID representing the model run
    - DataSetID – The unique ID representing the data set (baseline)
    - PersonnelGroupID – The unique ID representing the personnel group
    - ScenarioID – The unique ID representing the scenario
    - AnnualCost – The annual cost of the personnel group for the scenario
- MR_AvailablePersonnel
  - This table stores the number of personnel available for use for each personnel group for this model run.
  - Columns
    - ModelRunID – The unique ID representing this model run
    - DataSetID – The unique ID representing the data set (baseline)
    - PersonnelGroupID – The unique ID representing the personnel group
    - SkillID – The unique ID representing the skill
    - NumAvailable – The number of personnel available to do a certain skill
- MR_Budget
  - This table stores the budgets by year to be used for this model run.

- o Columns
  - ▪ ModelRunID – The unique ID representing this model run
  - ▪ YearID – The unique ID representing the year associated with the budget
  - ▪ Budget – The budget to be used
  - ▪ Ordinal – The ranking of the budgets when shown in the application
  - ▪ IsDeleted – A boolean indicating whether the budget has been deleted
- MR_ContractorCosts
  - o This table stores the costs for contractors.
  - o Columns
    - ▪ ModelRunID – The unique ID representing the model run
    - ▪ DataSetID – A unique ID representing the data set
    - ▪ SkillID – A unique ID representing the skill
    - ▪ LeadTime – An integer representing the lead time for the contractor
    - ▪ HiringCost – An integer representing the hiring cost for the contractor
    - ▪ HoldingCost – An integer representing the holding cost for the contractor
    - ▪ FiringCost – An integer representing the firing cost for the contractor
    - ▪
- MR_DistributionParameters
  - o This table stores the parameters needed to form a uncertainty distribution around a model parameter.
  - o Columns
    - ▪ ModelRunID – The unique ID representing the model run
    - ▪ DistributionParametersID – The unique ID representing the uncertainty distribution parameter
    - ▪ DistributionID – The unique ID representing the uncertainty distribution being used
    - ▪ Parameter1 – The first parameter to the uncertainty distribution
    - ▪ Parameter2 – The second parameter to the uncertainty distribution
    - ▪ Parameter3 – The third parameter to the uncertainty distribution
- MR_Elements
  - o This table stores information about the elements used in a model run.
  - o Columns
    - ▪ ModelRunID – A unique ID representing the model run
    - ▪ DataSetID – A unique ID representing the data set
    - ▪ ElementID – A unique ID representing the element
    - ▪ SkillID – A unique ID representing the skill
    - ▪ PhaseID – A unique ID representing the phase
    - ▪ MilitaryOnly – A boolean indicating whether the element is only for military
- MR_ManpowerSubstitution
  - o This table stores the substitution (efficiency) values for a personnel group will have for a given scenario.
  - o Columns
    - ▪ ModelRunID – A unique ID representing the model run
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ ScenarioID – A unique ID representing the scenario

- - PersonnelGroupID – A unique ID representing the personnel group
  - Substitution - A float value less than or equal to 1.0 representing the efficiency of a personnel group
  - Ordinal – An integer indicating the ordering of the substitutions in the application
  - IsDeleted – A boolean indicating whether this substitution has been deleted
- MR_ModelRunOptions
  - This table stores the model run's values for several model specific options.
  - Columns
    - ModelRunID – A unique ID referencing the model run
    - OptionID – A unique ID referencing the option for which the value is being set
    - Value – The value for the option
    - StepID – The step of the model which uses this value if using a multi-step optimization
- MR_PackagesRealizations
  - This table stores which packages contain which realizations of each scenario being used in the model run.
  - Columns
    - ModelRunID – A unique ID referencing the model run
    - DataSetID – A unique ID referencing the data set (baseline)
    - PackageID – A unique ID referencing the package
    - ScenarioID – A unique ID referencing the scenario
    - RealizationID – A unique ID referencing the realization
- MR_PlanningFactors
  - This table stores the baseline's planning factors (plus up percentage) for each zone (location) and skill combination.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - DataSetID – A unique ID representing the data set (baseline)
    - ZoneID – A unique ID representing the zone (location) associated with the planning factor
    - SkillID – A unique ID representing the skill associated with the planning factor
    - PlanningFactor – A plus up percentage to apply to the manpower requirements
- MR_Realizations
  - This table stores the list of realizations of each scenario along with their phase durations.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - DataSetID – A unique ID representing the data set (baseline)
    - ScenarioID – A unique ID representing the scenario
    - RealizationID – A unique ID representing the realization
    - StartDate – The start date of the scenario under this realization

- Phase0Duration – The duration of phase 0 under this realization
- Phase1Duration – The duration of phase 1 under this realization
- Phase2Duration – The duration of phase 2 under this realization
- Phase3Duration – The duration of phase 3 under this realization
- Phase4Duration – The duration of phase 4 under this realization
- Phase5Duration – The duration of phase 5 under this realization
- MR_ScenarioPhases
  - This table stores the phase durations for a scenario.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - DataSetID – A unique ID representing the data set (baseline)
    - ScenarioID – A unique ID representing the scenario
    - PhaseID – A unique ID representing the phase
    - Duration – An integer duration (in time periods)
    - DistributionParametersID – A unique ID representing the set of uncertainty distribution parameters to use
    - Ordinal – An integer indicating the ordering of the scenario phase in the application
    - IsDeleted – A boolean indicating whether this scenario has been deleted
- MR_Scenarios
  - This table stores the list of scenarios being used.
  - Columns
    - ModelRunID – a unique ID for the model run
    - DataSetID – A unique ID for the data set (baseline)
    - ScenarioID – A unique ID for the scenario
    - StartDate – The default start date of this scenario
    - DistributionParametersID – A unique ID representing the set of uncertainty distribution parameters to use
    - Ordinal – An integer indicating the ordering of the scenario in the application
    - IsDeleted – A boolean indicating whether this scenario has been deleted
- MR_ZonePhases
  - This table stores the risk and hostility settings for every phase and zone (location) combination for a given model run.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - DataSetID – A unique ID for the data set (baseline)ZoneID – A unique ID representing the zone (location)
    - PhaseID – A unique ID representing the phase
    - RiskID – A unique ID representing the risk level
    - HostilityID – A unique ID representing the hostility level
- MR_ZonePolicies
  - This table stores the policies to be used for each zone (location).
  - Columns
    - ModelRunID – A unique ID representing the model run
    - DataSetID – A unique ID representing the data set (baseline)

- ZoneID – A unique ID representing the zone (location)
- PolicyID – A unique ID representing the policy
- Editable – An boolean representing if this policy is editable
- IsDeleted – A boolean indicating if this policy has been deleted

Views

- MOUV_Assignments
  - This view shows percentiles of the number of personnel assigned by time period for a given model run.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - TimePeriodID – A unique ID representing the time period
    - TenthPercentile – The tenth percentile of personnel assigned in this time period
    - TwentyFifthPercentile – The twenty fifth percentile of personnel assigned in this time period
    - FiftiethPercentile – The fiftieth percentile of personnel assigned in this time period
    - SeventyFifthPercentile – The seventy fifth percentile of personnel assigned in this time period
    - NinetiethPercentile – The ninetieth percentile of personnel assigned in this time period
- MOUV_AssignmentsByPersonnelGroup
  - This view shows percentiles of the number of personnel assigned by personnel group and time period for a given model run.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - PersonnelGroupID – A unique ID representing the personnel group
    - TimePeriodID – A unique ID representing the time period
    - TenthPercentile – The tenth percentile of personnel assigned in this time period
    - TwentyFifthPercentile – The twenty fifth percentile of personnel assigned in this time period
    - FiftiethPercentile – The fiftieth percentile of personnel assigned in this time period
    - SeventyFifthPercentile – The seventy fifth percentile of personnel assigned in this time period
    - NinetiethPercentile – The ninetieth percentile of personnel assigned in this time period
- MOUV_AssignmentsByPersonnelGroupSkill
  - This view shows percentiles of the number of personnel assigned by personnel group, skill, and time period for a given model run.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - SkillID – A unique ID representing the skill
    - PersonnelGroupID – A unique ID representing the personnel group

- - TimePeriodID – A unique ID representing the time period
  - TenthPercentile – The tenth percentile of personnel assigned in this time period
  - TwentyFifthPercentile – The twenty fifth percentile of personnel assigned in this time period
  - FiftiethPercentile – The fiftieth percentile of personnel assigned in this time period
  - SeventyFifthPercentile – The seventy fifth percentile of personnel assigned in this time period
  - NinetiethPercentile – The ninetieth percentile of personnel assigned in this time period
- MOUV_AssignmentsBySkill
  - This view shows percentiles of the number of personnel assigned by skill and time period for a given model run.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - SkillID – A unique ID representing the skill
    - TimePeriodID – A unique ID representing the time period
    - TenthPercentile – The tenth percentile of personnel assigned in this time period
    - TwentyFifthPercentile – The twenty fifth percentile of personnel assigned in this time period
    - FiftiethPercentile – The fiftieth percentile of personnel assigned in this time period
    - SeventyFifthPercentile – The seventy fifth percentile of personnel assigned in this time period
    - NinetiethPercentile – The ninetieth percentile of personnel assigned in this time period
- MOUV_ContractorUsage_AssignmentsByPhase
  - This view shows assignments for contractors by scenario, skill, personnel group, and phase.
  - Columns
    - DataSetID – A unique ID representing the data set (baseline)
    - ModelRunID – A unique ID representing the model run
    - ScenarioID – A unique ID representing the scenario
    - SkillID – A unique ID representing the skill
    - PersonnelGroupID – A unique ID representing the personnel group
    - PhaseID – A unique ID representing the phase
    - Assigned – The number of contractors assigned
- MOUV_DeterministicAssignments_UnAveraged
  - This view shows the sum of the number of assigned personnel and overage across all packages along with the number of personnel available.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - ScenarioID – A unique ID representing the scenario
    - PersonnelGroupID – A unique ID representing the personnel group

- SkillID – A unique ID representing the skill
    - TimePeriodID – A unique ID representing the time period
    - Assigned – The sum of the number of personnel assigned over all packages
    - Overage – The sum of the number of personnel over what was available over all packages
    - NumAvailable – The number of personnel available
- MOUV_ManpowerMix
    - This view shows a breakdown of how many personnel of each type were assigned to each skill.
    - Columns
        - ModelRunID – A unique ID representing the model run
        - ScenarioID – A unique ID representing the scenario
        - PersonnelGroupID – A unique ID representing the personnel group
        - SkillID – A unique ID representing the skill
        - Amount – The number of personnel assigned to the skill
- MOUV_OverageLikelihood
    - This view shows the likelihood of having an overage in a given time period for a skill along with the average overage should one occur.
    - Columns
        - ModelRunID – A unique ID representing the model run
        - TimePeriodID – A unique ID representing the time period
        - SkillID – A unique ID representing the skill
        - OverageLikelihood – The likelihood of having an overage
        - AverageOverage – The average overage should one occur
- MOUV_PersonnelGroupUsage
    - This view shows the number of personnel assigned to a skill for a given scenario.
    - Columns
        - DataSetID – A unique ID representing the data set (baseline)
        - ModelRunID – A unique ID representing the model run
        - ScenarioID – A unique ID representing the scenario
        - SkillID – A unique ID representing the skill
        - Assigned – The number of personnel assigned
- MOUV_PersonnelGroupUsage_ContractorsPercent
    - This view shows the percentage of contractors used for a given scenario, skill, and personnel group combination.
    - Columns
        - DataSetID – A unique ID representing the data set (baseline)
        - ModelRunID – A unique ID representing the model run
        - ScenarioID – A unique ID representing the scenario
        - SkillID – A unique ID representing the skill
        - PersonnelGroupID – A unique ID representing the personnel group
        - Percentage – The percentage of this personnel group assigned to this skill
- MOUV_PlanningFactors
    - This view shows the planning factors for a given model run.
    - Columns

- - DataSetID – A unique ID representing the data set (baseline)
  - ModelRunID – A unique ID representing the model run
  - ZoneID – A unique ID representing the zone (location)
  - SkillID – A unique ID representing the skill
  - PlanningFactor - A plus up percentage to apply to the manpower requirements
- MOUV_Spent
  - This view shows the cost by year for a given model run.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - FYYear – The fiscal year
    - TenthPercentile – The tenth percentile of cost
    - TwentyFifthPercentile – The twenty fifth percentile of cost
    - FiftiethPercentile – The fiftieth percentile of how much was spent
    - SeventyFifthPercentile – The seventy fifth percentile of cost
    - NinetiethPercentile – The ninetieth percentile of cost
    - MinSpent – The minimum cost
    - AvgSpent – The average cost
    - MaxSpent – The maximum cost
    - Budget – The fiscal year budget
- MOUV_SpentByPersonnel
  - This view shows the cost by year for a given personnel group.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - PersonnelGroupID – A unique ID representing the personnel group
    - FYYear – The fiscal year
    - TotalCost – The total cost
    - TenthPercentile – The tenth percentile of cost
    - TwentyFifthPercentile – The twenty fifth percentile of cost
    - FiftiethPercentile – The fiftieth percentile of cost
    - SeventyFifthPercentile – The seventy fifth percentile of cost
    - NinetiethPercentile – The ninetieth percentile of cost
    - MinSpent – The minimum cost
    - AvgSpent – The average cost
    - MaxSpent – The maximum of cost
    - Budget – The fiscal year budget
- MOUV_SpentResourcePool
  - This view shows the cost of a certain personnel group by year.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - PersonnelGroupID – A unique ID representing the personnel group
    - FYYear – The fiscal year
    - TotalCost – The cost of the personnel group
- MOUV_UseCostComparison
  - This view shows a comparison of the cost of personnel groups between two model runs.

- o Columns
  - ▪ DataSetID – A unique ID representing the data set (baseline)
  - ▪ ScenarioID – A unique ID representing the scenario
  - ▪ SkillID – A unique ID representing the skill
  - ▪ PersonnelGroupID – A unique ID representing the personnel group
  - ▪ Left_ModelRunID – A unique ID representing the first of the two model runs
  - ▪ Right_ModelRunID – A unique ID representing the second of the two model runs
  - ▪ Left_ExpectedUseCost – The expected cost of the first model run
  - ▪ Right_ExpectedUseCost – The expected cost of the second model run
  - ▪ CostDifference – The difference in cost between the two model runs
- • MOUV_UseCostComparison_ModelRuns
  - o This view shows a list of which model runs can be compared together.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ Left_ModelRunID – A unique ID representing the first of the two model runs
    - ▪ Right_ModelRunID – A unique ID representing the second of the two model runs
    - ▪ Left_ModelRunName – The name of the first model run
    - ▪ Right_ModelRunName – The name of the second model run
- • MOV_PackageCount
  - o This view shows the number of packages in each model run.
  - o Columns
    - ▪ ModelRunID – A unique ID representing the model run
    - ▪ PackageCount – The number of packages in the model run
- • MRIV_AllowedPersonnel
  - o This view shows which personnel groups are allowed for each element.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ ModelRunID – A unique ID representing the model run
    - ▪ ScenarioID – A unique ID representing the scenario
    - ▪ RealizationID – A unique ID representing the realization
    - ▪ ElementID – A unique ID representing the element
    - ▪ PersonnelGroupID – A unique ID representing the personnel group
    - ▪ Allowed – A boolean value as to whether or not the personnel group is allowed
    - ▪ PhaseID – A unique ID representing the phase
- • MRIV_AllowedPersonnel_PolicyRules
  - o This view shows which personnel groups are allowed based on the policies.
  - o Columns
    - ▪ DataSetID – A unique ID representing the data set (baseline)
    - ▪ ModelRunID – A unique ID representing the model run
    - ▪ ScenarioID – A unique ID representing the scenario
    - ▪ RealizationID – A unique ID representing the realization

- - - ElementID – A unique ID representing the element
    - PersonnelGroupID – A unique ID representing the personnel group
    - Allowed – A Boolean value as to whether the personnel group is allowed
- MRIV_AvailablePersonnel
  - This view shows how many personnel are available at each time period.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - PersonnelGroupID – A unique ID representing the personnel group
    - SkillID – A unique ID representing the skill
    - TimePeriodID – A unique ID representing the time period
    - NumAvailable – The number of personnel available
- MRIV_Budget
  - This view shows the budget by year for a model run.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - FYYear – The fiscal year
    - Budget – The budget for the given year
- MRIV_LaborRequirements
  - This view shows the number of personnel required for a model run.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - ScenarioID – A unique ID representing the scenario
    - RealizationID – A unique ID representing the realization
    - ZoneID – A unique ID representing the zone (location)
    - SkillID – A unique ID representing the skill
    - PhaseID – A unique ID representing the phase
    - ElementID – A unique ID representing the element
    - TimePeriodID – A unique ID representing the time period
    - NumRequired – The number of personnel required
- MRIV_OSI_AssignmentConstraint
  - This view shows all of the assignment constraints that are used by the model.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - PackageID – A unique ID representing the package
    - ScenarioID – A unique ID representing the scenario
    - RealizationID – A unique ID representing the realization
    - ElementID – A unique ID representing the element
    - SkillID – A unique ID representing the skill
    - TimePeriodID – A unique ID representing the time period
    - PhaseID – A unique ID representing the phase
    - NumRequired – The number of personnel required
- MRIV_OSI_BudgetConstraint
  - This view shows all of the budget constraints that are used by the model.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - Year – The fiscal year

- - Budget – The budget for the year
- MRIV_OSI_CapacityConstraint
  - This view shows all of the capacity constraints that are used by the model.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - PersonnelGroupID – A unique ID representing the personnel group
    - SkillID – A unique ID representing the skill
    - TimePeriodID – A unique ID representing the time period
    - NumAvailable – The number of personnel available
- MRIV_OSI_DecisionVariables
  - This view shows all of the decision variables that are used by the model.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - PackageID – A unique ID representing the package
    - ScenarioID – A unique ID representing the scenario
    - RealizationID – A unique ID representing the realization
    - ElementID – A unique ID representing the element
    - SkillID – A unique ID representing the skill
    - TimePeriodID – A unique ID representing the time period
    - PersonnelGroupID – A unique ID representing the personnel group
    - Year – The fiscal year
    - Efficiency – The efficiency of the personnel group
    - UseCost – The cost of using the personnel group
    - XCoefficient – The x coefficient in the model's matrix
    - GCoefficient – The g coefficient in the model's matrix
- MRIV_PackageIDs
  - This view shows the list of package IDs for each model run.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - PackageID – A unique ID representing the package
- MRIV_Parameters
  - This view shows the input parameters to the model.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - Mu – A conversion factor for going from FTEs to hours
    - Gamma –The penalty for having an overage
    - EnforceBudgets – A Boolean as to whether to enforce budgets
- MRIV_Parameters_Actuals
  - This view shows the values of input parameters to the model that have overridden the defaults.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - OptionID – A unique ID representing the option that is being overridden
    - Value – The override value
- MRIV_RealizationsUsed
  - This view shows for each package, which realization of each scenario to use.

- Columns
  - ModelRunID – A unique ID representing the model run
  - PackageID – A unique ID representing the package
  - ScenarioID – A unique ID representing the scenario
  - RealizationID – A unique ID representing the realization
  - UseRealization – A Boolean as to whether the realization is to be used
- MRIV_TimePeriods
  - This view shows the list of time periods to use for each model run.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - TimePeriodID – A unique ID representing the time period
- MRIV_TimePeriodYears
  - This view shows the mapping for which time periods fall under which fiscal year
  - Columns
    - ModelRunID – A unique ID representing the model run
    - TimePeriodID – A unique ID representing the time period
    - FYYear – The fiscal year
- MRIV_Years
  - This view shows the list of years to use for each model run.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - FYYear – The fiscal year
- MRUV_AllowedPersonnel
  - This view shows which personnel groups are allowed based on the applied policies.
  - Columns
    - DataSetID – A unique ID representing the data set (baseline)
    - ModelRunID – A unique ID representing the model run
    - ScenarioID – A unique ID representing the scenario
    - ZoneID – A unique ID representing the zone (location)
    - PhaseID – A unique ID representing the phase
    - PersonnelGroupID – A unique ID representing the personnel group
    - Allowed – A Boolean as to whether the personnel group is allowed
- MRUV_AvailablePersonnel
  - This view shows how many personnel are available for each skill.
  - Columns
    - DataSetID – A unique ID representing the data set (baseline)
    - ModelRunID – A unique ID representing the model run
    - PersonnelGroupID – A unique ID representing the personnel group
    - SkillID – A unique ID representing the skill
    - NumAvailable – The number of personnel available
- MRUV_ManpowerRequirementsByScenarioPhase
  - This view shows the manpower requirements by scenario and phase.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - ScenarioID – A unique ID representing the scenario

- PhaseID – A unique ID representing the phase
      - TimePeriodID – A unique ID representing the time period
      - NumRequired – The number of personnel required
- MRUV_ManpowerRequirementsBySkill
  - This view shows the manpower requirements by skill.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - SkillID – A unique ID representing the skill
    - TimePeriodID – A unique ID representing the time period
    - NumRequired – The number of personnel required
    - NumAvailable – The number of personnel available
- MRUV_ScenarioPhases
  - This view shows the duration of each phase of a scenario with a minimum and maximum if there is uncertainty.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - DataSetID – A unique ID representing the data set (baseline)
    - ScenarioID – A unique ID representing the scenario
    - PhaseID – A unique ID representing the phase
    - Duration – The duration of the phase
    - DistributionParametersID – A unique ID representing the uncertainty distribution parameters used for the phase
    - MinDuration – The minimum duration of the phase
    - MaxDuration – The maximum duration of the phase
    - Ordinal – Integer representing the ordering of the phase in the application
    - IsDeleted – Boolean indicating whether this phase has been deleted
- MRUV_ZonePhases
  - This view shows the risk and hostility of each phase.
  - Columns
    - ModelRunID – A unique ID representing the model run
    - DataSetID – A unique ID representing the data set (baseline)
    - ZoneID – A unique ID representing the zone (location)
    - PhaseID – A unique ID representing the phase
    - RiskID – A unique ID representing the risk
    - HostilityID – A unique ID representing the hostility
- MRUV_ZonePolicies
  - This view shows the policies applied to each zone (location).
  - Columns
    - DataSetID – A unique ID representing the data set (baseline)
    - ModelRunID – A unique ID representing the model run
    - ZoneID – A unique ID representing the zone (location)
    - PolicyID – A unique ID representing the policy
    - Editable – A Boolean as to whether an analyst can remove this policy
    - IsDeleted – A Boolean as to whether this policy has been deleted
- MRV_Elements
  - This view shows all of the elements that will be used in the model.

- o Columns
  - ModelRunID – A unique ID representing the model run
  - DataSetID – A unique ID representing the data set (baseline)
  - ScenarioID – A unique ID representing the scenario
  - ZoneID – A unique ID representing the zone (location)
  - SkillID – A unique ID representing the skill
  - PhaseID – A unique ID representing the phase
  - ElementID – A unique ID representing the element
  - MilitaryOnly – A Boolean as to whether this element is for only military
- MRV_RealizationPhases
  - o This view shows the phase durations under each realization.
  - o Columns
    - ModelRunID – A unique ID representing the model run
    - DataSetID – A unique ID representing the data set (baseline)
    - ScenarioID – A unique ID representing the scenario
    - RealizationID – A unique ID representing the realization
    - PhaseID – A unique ID representing the phase
    - Duration – The duration of the phase

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